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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/506,571

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Kazuyuki Yamane

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EXAMINER

THAKUR, VIREN A

ART UNIT

PAPER NUMBER

1761

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/08/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/506,571	YAMANE ET AL.	
	Examiner	Art Unit	
	Viren Thakur	1761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-29, 31-35 and 39-48 is/are pending in the application.
- 4a) Of the above claim(s) 43-48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-29, 31-35 and 39-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. As a result of the amendment, filed November 16, 2006, rejection of claims 25-26, 28, 29, 34, 35, 36 and 40 under 35 U.S.C. 102(b) as being anticipated by Su (US 3804938) have been withdrawn.
2. As a result of the amendment to claims 40 and 41, the rejection under 35 U.S.C. 112, second paragraph has been withdrawn.
3. As a result of the amendment to the claims the rejection of claims 26, 27 and 36-41 under 35 U.S.C. 103(a) as being unpatentable over Su in view of Knott, II et al. (US 4355721); claims 30-33 over Su in view of Knott, II et al. and in further view of Levinson (US 4390554) and claim 42 over Su in view of Knott, II et al. and in further view of Shiiki et al. (US 6245437) have been withdrawn.
4. Applicant's arguments with respect to claims 25-29, 31-35 and 39-42 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

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5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 35 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. On page 17 the specification states that the water soluble compound may be either an inorganic electrolyte or a water soluble organic compound; however disclosure has not been provided for a water soluble compound to contain both an inorganic electrolyte and a water soluble alcohol and therefore cannot contain both.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 25 and 35 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The above-specified claim^s recite~~s~~ the limitation "wherein the hot water is caused to contain a water-soluble compound comprising an inorganic electrolyte." From the recited claim limitation, it is not

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clear as to whether the water-soluble compound comprises an inorganic electrolyte or whether the hot water contains an inorganic electrolyte. This recitation is further indefinite since water-soluble compounds can contain inorganic components that are ionic (and thus electrolytes).

Regarding instant claim 35, it is not clear how the water-soluble compound is a water soluble alcohol comprising an inorganic electrolyte. Alcohols contain covalent bonds while an electrolyte contains ionic bonds. Although both are water soluble, alcohols would not ionize in water; therefore it is not clear as to how the water soluble compound comprising an electrolyte can also be an alcohol or contain an alcohol.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 25-28, 31, 34, 39, 40 and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al. (US 6022913). Tanaka et al. disclose a heat treating method for a packaging product, comprising providing a packaging product formed by enclosing a content material within a packaging material.

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(Column 10, Lines 51-57) comprising at least a layer of hydrophilic gas-barrier resin selected from the group consisting of ethylene-vinyl alcohol copolymer, polyamide copolymers and glycolic acid copolymers. Specifically, Tanaka et al. disclose using polyvinyl alcohol (Column 3, Lines 21-22; Column 6, Lines 54-59) and further teach using polymers of polyamide (Column 8, Lines 23-35). Tanaka et al. further disclose wherein said package is retort heated in hot water (Column 3, Lines 15-59). Tanaka et al. additionally disclose wherein a water-soluble compound comprising an inorganic electrolyte is added to the water (Column 10 Line 63 to Column 11, Line 6; Column 11, Lines 12-14). An electrolyte is a ionic substance, such as a salt or a metal, both of which have been disclosed by Tanaka et al. As recited in instant claims 26 and 27, Tanaka et al. disclose boiling treatment below 100°C and retort treatment above 100°C (Column 10, Lines 58-62). As recited in instant claims 31 and 32, Tanaka et al. disclose wherein the water-soluble compound is a water soluble inorganic salt (Column 11, Lines 12-14). As recited in instant claim 34, Tanaka et al. disclose wherein the water soluble compound is a water soluble organic compound (Column 11, Lines 8-12). In light of the rejection of instant claim 25 under 112, 2nd paragraph, regarding the water-soluble compound comprising an inorganic electrolyte, since Tanaka et al. disclose the metal ions can be obtained from an organic salt (Column 11, Lines 8-12) the organic salt intrinsically comprises an inorganic electrolyte. This electrolyte is the salt component of the organic compound. Regarding instant claim 39, Tanaka et al. disclose wherein the packaging

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material comprises a multi-layer structure (Column 3, Lines 15-25). As recited in instant claim 40, Takana et al. disclose wherein the hydrophilic gas-barrier resin layer is disposed as a surface layer contacting the hot water (Column 3, Lines 41-59; Column 6, Lines 54-64). Regarding instant claim 41, Tanaka et al. disclose wherein both layers are gas barriers (Column 8, Lines 23-35). Tanaka et al. disclose wherein the at least two layers of laminated film comprise an outermost layer having a specified function and layers comprising a thermoplastic resin. The resins disclosed, such as polyamide and polyvinylidene chloride are known gas barriers and further have hydrophilic properties. As discussed above, the outer layer having a specified function is a gas-barrier such as a polymer of polyamide or a polyvinyl alcohol.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:
 1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
13. Claims 28-29 and 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (US 6022913). Tanaka et al. teach as cited above.

However, Tanaka et al. are silent in specifically disclosing wherein the hot water contains the water-soluble compound at a concentration exceeding 0.1 wt. % and further wherein the hot water contains the water-soluble compound at a concentration of at least 1 wt. %. On column 11, lines 2-6, Tanaka et al. teach wherein the concentration of the metal ion is at least 1ppm (0.0001 percent) but can be greater based on the volume of the hot water and the mass of the package to be treated. Additionally, on column 12, lines 21-23, Tanaka et al. teach wherein the concentration of the metal ions is in the range of 1 ppm (0.0001 percent) to the saturation concentration. At the saturation point, the metal is no longer soluble in the water. This point is also known as the solubility point. Tanaka et al. further teach wherein the metal ion can be obtained from potassium or magnesium salts. One having ordinary skill in the art would have recognized that the common salt of potassium or magnesium is the chloride. In

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this case, potassium chloride has a solubility of approximately 36 grams per 100 grams water at 25°C. At saturation, this is equivalent to 26.4 percent. Therefore, it would have been obvious given the teachings of Tanaka et al. and the knowledge of one having ordinary skill in the art that the amount of the water soluble compound could be used at a concentration greater than 0.1 weight percent and a concentration greater than 1 weight percent. Such a modification would ensure that the metal ions permeate into the outermost layer of the container to ensure that the outermost layer maintains its gas barrier properties.

Regarding instant claims 32 and 33, Tanaka et al. do not specifically disclose wherein the water-soluble compound is selected from the group consisting of sodium chloride, magnesium chloride and potassium chloride; and further wherein the specific water soluble compound is sodium chloride.

However, as discussed above, Tanaka et al. teach wherein the metal ions can be obtained from magnesium and calcium for practicality. Further, Tanaka et al. teach wherein said ions can be obtained from the salts of these compounds (Column 11, Lines 2-14). Additionally, Tanaka et al. teach wherein the metal ions can be obtained from city or well water. One having ordinary skill in the art would recognize that obtaining such ions from city or well water suggest an easily accessible means for obtaining said ions. Nevertheless, ^{as} the purpose of the invention of Tanaka et al. is to obtain the metal ions, one having ordinary skill in the art would have recognized the commonality of precipitating the ions from salts. (This is also a common problem also recognized by Applicants).

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Therefore to use magnesium chloride, potassium chloride or sodium chloride would not have provided a patentable feature over the prior art, since the use of any of the above salts up to their saturation point (as disclosed by Tanaka et al.) would result in fewer free water molecules and thus lower kinetic energy within the water solution. This is an intrinsic feature of incorporating a soluble ionic compound into water. Although Tanaka et al. are more concerned with maintaining the gas-barrier properties of the container after heat treatment, opalescence cannot be prevented during heat treatment of a hydrophilic resin. However, since Tanaka et al. disclose incorporating an ionic compound into the water, upon heating a container comprising a hydrophilic resin prevention of the opalescence of the hydrophilic resin will intrinsically result from the method as disclosed by Tanaka et al.

14. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (US 6022913) in view of Su (US 3804938). Tanaka et al. disclose as cited above. Tanaka et al. are silent in teaching wherein the water-soluble compound is a water soluble alcohol.

Su teach a process for removing the haze formation in containers that are heated in water by incorporating a volume of a polyhydric alcohol into the water within which said containers are heated. As further taught by Su, polyhydric alcohols consist of such compounds as sorbitol, glycerol, erythritol. Additionally, as taught by Tanaka et al. and as known by one having ordinary skill in the art,

polyhydric alcohols also comprise sugar alcohols. As discussed above, Tanaka et al. teach using commonly available substances. One having ordinary skill would have recognized that polyhydric alcohols are artificial sweeteners that are commonly available. Given these teachings, it would have been obvious to use a polyhydric alcohol in the process of Tanaka et al. since sugar alcohols are known to be safe to use and commonly available to one having ordinary skill in the art. Therefore to use a water soluble alcohol would not have provided a patentable feature to the instant invention, over the prior art.

As stated above, although Tanaka et al. are not directly concerned with the formation of haze when heating a hydrophilic resin in hot water, one having ordinary skill in the art would have recognized that this is a common problem with hot water treatment of hydrophilic resins. Therefore, hydrolyzing a water soluble compound to saturate the heated water and lower the kinetic energy of the water is an intrinsic property of saturation. Whether this would have been accomplished using an electrolytic compound or an alcohol containing compound would not provide a patentable feature over the prior art, since Tanaka et al. disclose a saturated water solution in which a package undergoes retort heat treatment.

15. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (US 6022913) in view of Shiiki et al. (US 6245437). Tanaka et al. disclose as cited above. Further, Tanaka et al. disclose a container having at least two.

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layers wherein both layers are thermoplastic and comprised from materials having gas barrier properties, as cited above. Tanaka et al. are silent in teaching wherein the gas-barrier resin is a glycolic acid copolymer.

Shiiki et al. teach a gas barrier composite film comprised of a polymer of glycolic acid for use in food packaged materials that undergo high-temperature, high humidity conditions, such as retorting (Column 2, Lines 15-28; Column 11, Lines 34-46). Shiiki et al. further teach when said polyglycolic acid film is used in combination with a thermoplastic film that the gas barrier properties of the film are markedly improved (Column 2, Lines 7-61). This is analogous to the teachings of Tanaka et al. who disclose two layers wherein one layer is a gas barrier and the second layer is a thermoplastic film. Nevertheless, one having ordinary skill in the art would have recognized that the thermoplastic films disclosed in Tanaka et al. and Shiiki et al., such as polyvinylidene chloride are known to have gas barrier properties. Therefore, given the teachings of the prior art in combination with the knowledge of one having ordinary skill in the art, to use a gas barrier resin comprising a polyglycolic acid copolymer would not have provided a patentable feature over the prior art, since the polyglycolic acid film would provide an equivalent function for providing a gas-barrier film, as analogously disclosed in the invention of Tanaka et al.

Conclusion

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16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 4741911 discloses mixing sodium chloride with water during retort conditions for thermally processing packaged foods. US 3542712 discloses minimizing the haze formation in a coating wherein the haze is minimized by addition of a wax and rosin ester in a solvent mixture such as isopropanol and cyclohexane to hydrolyzed polyvinyl acetate in water. US 4986995 discloses retort treatment of food such as rice in a closed container, wherein the water used therein includes sodium chloride. The container further is lined with ethylene vinyl alcohol. US 1491092 discloses retort heat treatment of sealed receptacles containing a material therein. US 4407873, US 4407874, US 4729926 US 4746562, US 4753700, US 4818592, US 4928474, US 6559639 discloses an thermoplastic layered container with a product disposed therein that is subjected to retort conditions. US 4255490 discloses a polymeric film that is exposed to a water bath comprising an inorganic salt so as to promote acetalization and also prevents swelling of the plastic layer during the process of forming said plastic layer. The polymeric film is also exposed to retort heat treatment.
17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Viren Thakur whose telephone number is (571)-272-6694. The examiner can normally be reached on Monday through Friday from 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571)272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Viren Thakur
Examiner
Art Unit: 1761



KEITH HENDRICKS
PRIMARY EXAMINER